

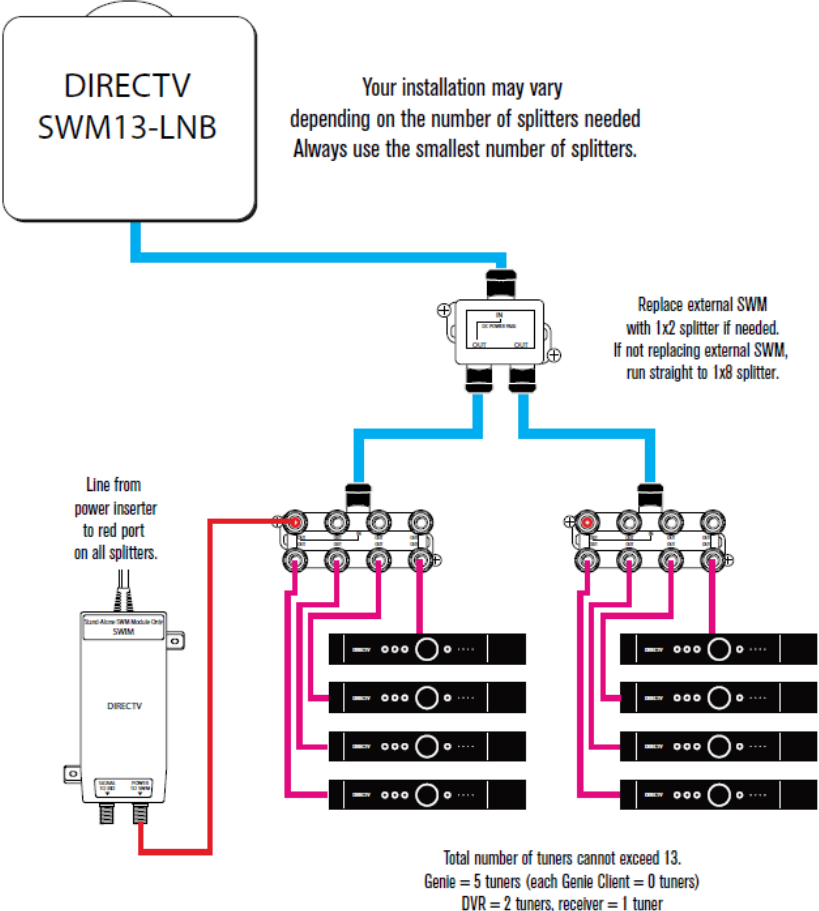
EXHIBIT J

U.S. Patent No. 8,631,450 (“the ’450 Patent”) Exemplary Infringement Chart

The Accused MoCA Instrumentalities are instrumentalities that DirecTV deploys to provide a whole-premises DVR network over an on-premises coaxial cable network, with devices operating with data connections compliant with MoCA 1.0, 1.1, and/or 2.0. The Accused MoCA Instrumentalities include the DirecTV HR24, DirecTV HR34, DirecTV HR44, DirecTV HR54, DirecTV HS17, DirecTV C31, DirecTV C41, DirecTV C51, DirecTV C61, DirecTV C61K and substantially similar instrumentalities. DirecTV literally and/or under the doctrine of equivalents infringes the claims of the ’450 Patent under 35 U.S.C. § 271(a) by using the Accused MoCA Instrumentalities.

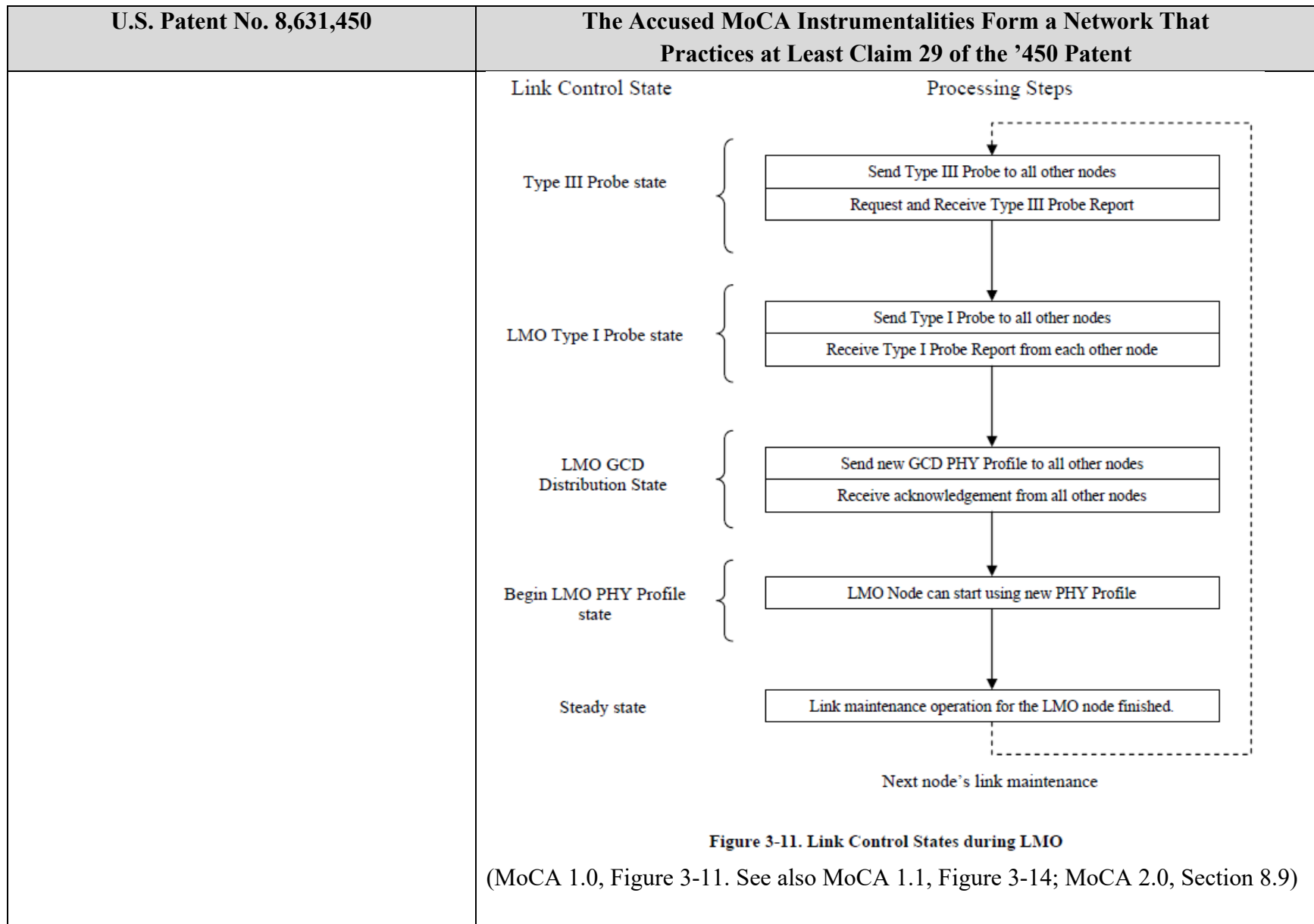
U.S. Patent No. 8,631,450	The Accused MoCA Instrumentalities Form a Network That Practices at Least Claim 29 of the ’450 Patent
29. A broadcasting method within a Broadband Coaxial Network (“BCN”), comprising:	<p>The Accused Services are provided using at least the Accused MoCA Instrumentalities including gateway devices (including, but not limited to, the DirecTV HR24, DirecTV HR34, DirecTV HR44, DirecTV HR54, DirecTV HS17, and devices that operate in a similar matter) and client devices (including, but not limited to, the DirecTV C31, DirecTV C41, DirecTV C51, DirecTV C61, DirecTV C61K, and devices that operate in a similar manner), and substantially similar instrumentalities. The Accused MoCA Instrumentalities operate to form a broadband coaxial network over an on-premises coaxial cable network as described below.</p> <p>The DirecTV full-premises DVR network constitutes a broadband coaxial network as claimed. The DirecTV full-premises DVR network is a MoCA network created between gateway devices and client devices using the on-premises coaxial cable network. This MoCA network is compliant with MoCA 1.0, 1.1, and/or 2.0.</p> <p>“The MoCA system network model creates a coax network which supports communications between a convergence layer in one MoCA node to the corresponding convergence layer in another MoCA node.” (MoCA 1.0, Section 1. <i>See also</i> MoCA 1.1, Section 1.1; MoCA 2.0, Section 1.2.2)</p>

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	<p>“The MoCA Network transmits high speed multimedia data over the in-home coaxial cable infrastructure.” (MoCA 1.0, Section 2. <i>See also</i> MoCA 1.1, Section 2; MoCA 2.0, Section 5)</p> <p>“In addition to the point-to-point communication, the MoCA protocol supports broadcast and multicast capabilities. When transmitting to multiple devices, a node must find a set of PHY parameters that all the other nodes can receive. Even though two links from a given transmitter may have the same channel capacity, their individual link characteristics may be drastically different. A common set of PHY parameters that both receive nodes can receive may have less capacity. For broadcast and multicast transmissions, a node must calculate a Broadcast Bitloading (BBL) profile for all nodes that may receive the packet from this node.” (MoCA 1.0, Section 2.1.2. <i>See also</i> MoCA 1.1, Section 2.1.2, MoCA 2.0, Section 5.3.1)</p> <p>DirecTV utilizes the MoCA standard to provide an on-premises DVR network over an on-premises coaxial cable network as shown below:</p>

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	 <p>The diagram illustrates a DIRECTV MoCA network configuration. At the top, a box labeled 'DIRECTV SWM13-LNB' is connected via a blue line to a power inserter. A note states: 'Your installation may vary depending on the number of splitters needed. Always use the smallest number of splitters.' The power inserter is connected to two 8-port splitters. A note for the power inserter says: 'Replace external SWM with 1x2 splitter if needed. If not replacing external SWM, run straight to 1x8 splitter.' Each 8-port splitter is connected to four receivers (represented by black boxes with circular ports). A red line connects the power inserter to the receivers, with a note: 'Line from power inserter to red port on all splitters.' At the bottom, a note specifies: 'Total number of tuners cannot exceed 13. Genie = 5 tuners (each Genie Client = 0 tuners) DVR = 2 tuners, receiver = 1 tuner'.</p>
a transmitting node transmitting a probe signal to a plurality of receiving nodes;	<p>The Accused MoCA Instrumentalities include a transmitting node transmitting a probe signal to a plurality of receiving nodes as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules constituting a</p>

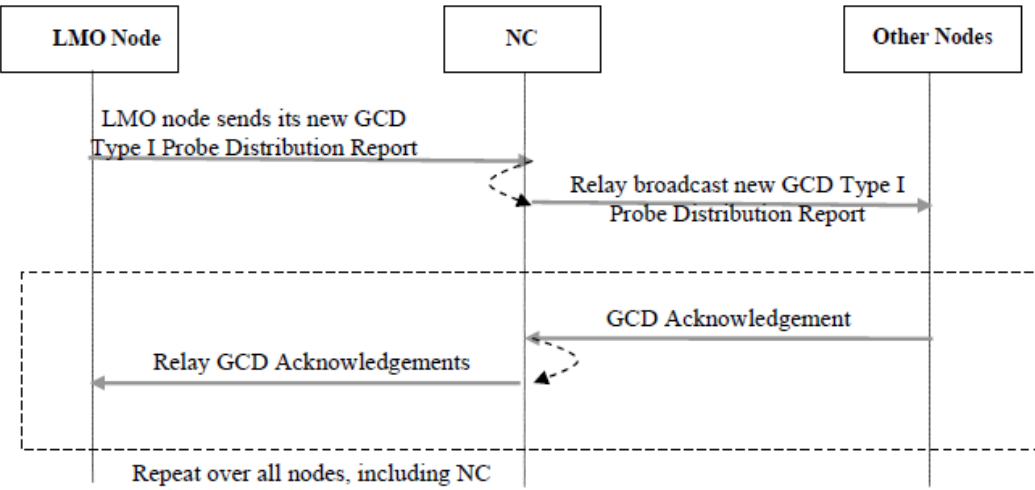
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	<p>transmitting node transmitting a probe signal to a plurality of receiving nodes.</p> <p>“While it is physically a shared medium, the logical network model is a fully meshed collection of point-to-point links, each with its own unique channel characteristics and channel capacity. MoCA devices use optimized PHY parameters between every point to point link. Each set of optimized PHY parameters is called a PHY Profile. Because each link is unique, it is critical that all nodes know the source and the destination for every transmission.” (MoCA 1.0, Section 2.1.2. <i>See also</i> MoCA 1.1, Section 2.1.2; MoCA 2.0, Section 1.2.2)</p> <p>“A variety of physical layer frequency-domain and time-domain probes are used to create modulation profiles, optimize performance, and allow for various calibration mechanisms. Type I Modulation Profile Probes are frequency domain probes used to determine modulation profiles of the channel between any two nodes. Type II Probes are frequency domain probes consisting of two tones that may be used to fine tune performance. A Type III Echo Profile Probe may be used to determine the impulse response of the channel. This information can be used to optimize various physical layer parameters. In addition to the above probes, this specification provides opportunities for various unique Loopback Transmissions which may be useful for RF calibration, among other things.” (MoCA 1.0, Section 2.2. <i>See also</i> MoCA 1.1, Section 2.2; MoCA 2.0, Section 5.2)</p> <p>“LMO is the process by which MoCA nodes periodically update transmit power levels and PHY profiles. The LMO operation MUST be performed as follows: (1) NC selects a node to be the “LMO node”, (2) All nodes participate in the signal exchanges specified in this section for</p>

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	<p>completing LMO of the LMO node. (3) NC selects the next node for LMO and the process is repeated.” (MoCA 1.0, Section 3.7. <i>See also</i> MoCA 1.1, Section 3.7; MoCA 2.0, Section 8.9)</p> <p>“The NC MUST indicate the beginning of the LMO signal exchange for a node by indicating the Link Control State “Type III Probe” (LINK_STATE = 0x07) and by setting LMO_NODE field of asynchronous MAPs to the Node ID of the LMO Node. The LMO_DESTINATION_NODE should always be set to 0x3F. Subsequently, all nodes MUST follow signal exchanges defined in this section.” (MoCA 1.0, Section 3.7. <i>See also</i> MoCA 1.1, Section 3.7; MoCA 2.0, Section 8.9)</p> <p>“As shown in Figure 3-11, the first state for the LMO of a node is the Type III Probe State. In this Link Control state, the LMO node transmits Type III Probes to all other nodes and receives reports back from them. This state is followed by the LMO Type I Probe state. In this Link Control state, the LMO node transmits Type I Probes to all other nodes and receives Type I Probe Reports back from them. The next Link Control state is the LMO GCD Distribution state. In this state, the LMO node sends the newly computed GCD PHY Profile to all other nodes and receives acknowledgements back from them. The next Link Control state is the Begin LMO PHY Profile state. The LMO node can begin using its new PHY Profile after the NC indicates this state in asynchronous MAPs.” (MoCA 1.0, Section 3.7.1. <i>See also</i> MoCA 1.1, Section 3.7.1; MoCA 2.0, Section 8.9)</p>



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	<p>“Probe – A signal transmitted by a MoCA node and received by the same or another node for improving or maintaining PHY performance of inter-node links.” (MoCA 1.0, Section 1.2. See also MoCA 1.1, Section 1.2, MoCA 2.0, Section 3)</p> <p>“The MoCA physical layer (PHY) utilizes a modulation technique named Adaptive Constellation Multi-tone (ACMT). ACMT is a variation of orthogonal frequency division multiplexing (OFDM) where knowledge of the channel is used to pre-equalize all signals using variable bitloading on all subcarriers. The term used to describe the bitloading of the ACMT subcarriers is “modulation profile” and the process of creating a modulation profile between a node pair is called “modulation profiling”. During periodic modulation profiling, probes are sent between all nodes and analyzed. After probe analysis, modulation profiles are chosen to optimize individual link throughput while maintaining a low packet error rate (PER). For each active ACMT subcarrier, the QAM constellation can vary from 1 to 8 bits per symbol (BPSK through 256QAM). Individual subcarriers can also be turned off. As a result, the number of bits per ACMT symbol varies as a function of the channel path.” (MoCA 1.0, Section 2.2. See also MoCA 1.1, Section 2.2; MoCA 2.0, Section 5)</p>
the transmitting node receiving a plurality of response signals comprising a plurality of bit-loading modulation schemes from the plurality of receiving nodes, wherein each of the plurality of receiving nodes	<p>The Accused MoCA Instrumentalities include the transmitting node receiving a plurality of response signals comprising a plurality of bit-loading modulation schemes from the plurality of receiving nodes, wherein each of the plurality of receiving nodes as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that receive a plurality of response signals comprising a plurality of bit-loading modulation schemes from the plurality of receiving nodes, wherein each of the plurality of receiving nodes.</p>

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	<p>“As described above, certain transmissions of probes are mandated by this specification. The information obtained from analyzing the probe packets at the receiver is used to determine various PHY parameters, such as Modulation Profile and cyclic prefix length for each link and channel. The link layer communicates the computed PHY parameters to other nodes according to the MAC specification.” (MoCA 1.0, Section 4.5. <i>See also</i> MoCA 1.1, Section 4.5, MoCA 2.0, Section 8.9)</p> <p>“When NC receives indication by all other nodes in the network (including LMO node) in their reservation request (NEXT_LINK_STATE = 0x9) that they have finished signal exchanges of the previous state, NC MUST begin advertising LMO GCD Distribution state. This state is indicated by value 0x09 in the Asynchronous MAPs. When the LMO node receives Type I Probe Reports from all other nodes, it must re-calculate its GCD PHY Profiles and send back to all other nodes. Signals exchanged in this state are shown in Figure 3-14.” (MoCA 1.0, Section 3.7.4. <i>See also</i> MoCA 1.1, Section 3.7.4; MoCA 2.0, Section 8.9)</p>

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	 <p style="text-align: center;">Figure 3-14. Messages Exchanged During GCD Distribution State (MoCA 1.0, Figure 3-14. <i>See also</i> MoCA 1.1, Figure 3-18, MoCA 2.0, Section 8.9)</p>
<p>receives the probe signal through a corresponding channel path,</p>	<p>The Accused MoCA Instrumentalities are operable to receive the probe signal through a corresponding channel path as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that receive the probe signal through a corresponding channel path.</p> <p>“Once the Link Control state is advanced to the LMO Type I Probe state, the LMO node MUST request bandwidth to transmit N12 Type I Probes to each node (including the NC). For scheduling the transmission of the Type I Probes, the LMO node MUST request transmission time of 11404 SLOT_TIMES8. The N12 Type I Probes MUST be transmitted consecutively to one node before transmitting to</p>

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	<p>another node. [...] During LMO, Nodes MUST be able to receive and process Type I probe transmissions that are at least T23 apart.” (MoCA 1.0, Section 3.7.3.2. <i>See also</i> MoCA 1.1, Section 3.7.3.2, MoCA 2.0, Section 8.9)</p> <p>“Following Type I Probe transmissions, the LMO node MUST request a Type I Probe Report from all other nodes. When the LMO node is not the NC, it MUST send a Type I Probe Report Request to the NC for the NC to broadcast it to the other nodes in the network. When the LMO node is the NC, it MUST broadcast Type I Probe Report Requests to all the nodes.” (MoCA 1.0, Section 3.7.3.3. <i>See also</i> MoCA 1.1, Section 3.7.3.3, MoCA 2.0, Section 8.9)</p> <p>“When an EN receives the Type I Probe Report request, relayed via the NC, the EN MUST send a report back using Type I Probe Report MAC Frame (format shown in Table 3-9). The EN MUST send this report to the NC with a request to relay the report to the LMO node (by setting RELAY_FLAG to ‘1’).” (MoCA 1.0, Section 3.7.3.5. <i>See also</i> MoCA 1.1, Section 3.7.3.5, MoCA 2.0, Section 8.9)</p> <p>“Probe – A signal transmitted by a MoCA node and received by the same or another node for improving or maintaining PHY performance of inter-node links.” (MoCA 1.0, Section 1.2. <i>See also</i> MoCA 1.1, Section 1.2, MoCA 2.0, Section 3)</p>
determines transmission characteristics of the corresponding channel path,	The Accused MoCA Instrumentalities are operable to determine transmission characteristics of the corresponding channel path as described below.

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	<p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that determine transmission characteristics of the corresponding channel path.</p> <p>“The Type I Probe Report conveys critical information about channel conditions such as Modulation Profile and Power Control. The calculated parameters of this report are derived from Type I and optionally from Type III Probes and are described in Table 3-27. These parameters are to be used in future transmissions to the node that sent the report.”</p> <p>(MoCA 1.0, Section 3.13.3.1. <i>See also</i> MoCA 1.1, Section 3.13.3.1, MoCA 2.0, Section 8.3.4.1.7)</p>

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	<p data-bbox="919 285 1524 310">Table 3-27. Type I Probe Report Calculated Parameters</p> <table data-bbox="829 324 1617 1032"> <tr> <th data-bbox="829 324 1213 358">Parameter</th><th data-bbox="1213 324 1617 358">Explanation</th></tr> <tr> <td data-bbox="829 358 1213 488">PREAMBLE_TYPE</td><td data-bbox="1213 358 1617 488">Preamble Type P3 or P4 (see Section 4.4.2). Selection is based on channel conditions. For MAP elements, this field is Reserved.</td></tr> <tr> <td data-bbox="829 488 1213 586">BITS_PER_ACMT_SYMBOL</td><td data-bbox="1213 488 1617 586">The total number of bits per ACMT symbol, calculated from the Modulation Profile.</td></tr> <tr> <td data-bbox="829 586 1213 740">CHANNEL_USABLE</td><td data-bbox="1213 586 1617 740">Defines if the bandwidth passes the Admission Limit (Section 8.1.5) during Admission or Minimum Link Throughput (Section 8.1.6) during LMO.</td></tr> <tr> <td data-bbox="829 740 1213 870">CP_LENGTH</td><td data-bbox="1213 740 1617 870">Cyclic Prefix length to be used in future unicast transmissions. May also used to calculate the CP length for GCD transmissions.</td></tr> <tr> <td data-bbox="829 870 1213 935">TPC_BACKOFF_MAJOR</td><td data-bbox="1213 870 1617 935">Outer Loop Power Control backoff</td></tr> <tr> <td data-bbox="829 935 1213 1000">TPC_BACKOFF_MINOR</td><td data-bbox="1213 935 1617 1000">Outer Loop Power Control backoff</td></tr> <tr> <td data-bbox="829 1000 1213 1032">SC_MOD</td><td data-bbox="1213 1000 1617 1032">Modulation Profile</td></tr> </table> <p data-bbox="819 1057 1860 1084">(MoCA 1.0, Table 3-27. <i>See also</i> MoCA 1.1, Table 3-33, MoCA 2.0, Table 6-32)</p>	Parameter	Explanation	PREAMBLE_TYPE	Preamble Type P3 or P4 (see Section 4.4.2). Selection is based on channel conditions. For MAP elements, this field is Reserved.	BITS_PER_ACMT_SYMBOL	The total number of bits per ACMT symbol, calculated from the Modulation Profile.	CHANNEL_USABLE	Defines if the bandwidth passes the Admission Limit (Section 8.1.5) during Admission or Minimum Link Throughput (Section 8.1.6) during LMO.	CP_LENGTH	Cyclic Prefix length to be used in future unicast transmissions. May also used to calculate the CP length for GCD transmissions.	TPC_BACKOFF_MAJOR	Outer Loop Power Control backoff	TPC_BACKOFF_MINOR	Outer Loop Power Control backoff	SC_MOD	Modulation Profile
Parameter	Explanation																
PREAMBLE_TYPE	Preamble Type P3 or P4 (see Section 4.4.2). Selection is based on channel conditions. For MAP elements, this field is Reserved.																
BITS_PER_ACMT_SYMBOL	The total number of bits per ACMT symbol, calculated from the Modulation Profile.																
CHANNEL_USABLE	Defines if the bandwidth passes the Admission Limit (Section 8.1.5) during Admission or Minimum Link Throughput (Section 8.1.6) during LMO.																
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TPC_BACKOFF_MAJOR	Outer Loop Power Control backoff																
TPC_BACKOFF_MINOR	Outer Loop Power Control backoff																
SC_MOD	Modulation Profile																
determines a bit-loading modulation scheme for the corresponding channel path based on the transmission characteristics, and	<p data-bbox="819 1102 1896 1211">The Accused MoCA Instrumentalities are operable to determine a bit-loading modulation scheme for the corresponding channel path based on the transmission characteristics as described below.</p> <p data-bbox="819 1268 1896 1385">For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that determine a bit-loading modulation scheme for the corresponding channel path based on the</p>																

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	<p>transmission characteristics.</p> <p>“PHY Profile – A set of parameters that defines the modulation between two nodes, including the preamble type, Cyclic Prefix length, Modulation Profile, and transmit power.” (MoCA 1.0, Section 1.2. <i>See also</i> MoCA 1.1, Section 1.2, MoCA 2.0, Section 3)</p> <p>“Broadcast Bit Loading (BBL) – This transmission format is used by each node when transmitting simultaneously to all nodes in the network. The transmission format is derived by each transmitting node to be the common set of transmission parameters based on unicast transmission format from the transmitting node to each other node in the network.” (MoCA 1.0, Section 1.2. <i>See also</i> MoCA 1.1, Section 1.2, MoCA 2.0, Section 3)</p> <p>“Greatest Common Density (GCD) - A modulation format computed by a node for transmission to multiple recipient nodes. For the GCD format, the modulation density used for each subcarrier is chosen to be the greatest possible constellation density that is less than or equal to the constellation density for that subcarrier as reported in the most recent Type I Probe Report the node sent to each of the other nodes in which the node indicated CHANNEL_USABLE = 0x01.” (MoCA 1.0, Section 1.2. <i>See also</i> MoCA 1.1, Section 1.2, MoCA 2.0, Section 3)</p> <p>“In addition to the point-to-point communication, the MoCA protocol supports broadcast and multicast capabilities. When transmitting to multiple devices, a node must find a set of PHY parameters that all the other nodes can receive. Even though two links from a given transmitter may have the same channel capacity, their individual link characteristics may be drastically different. A common set of PHY</p>

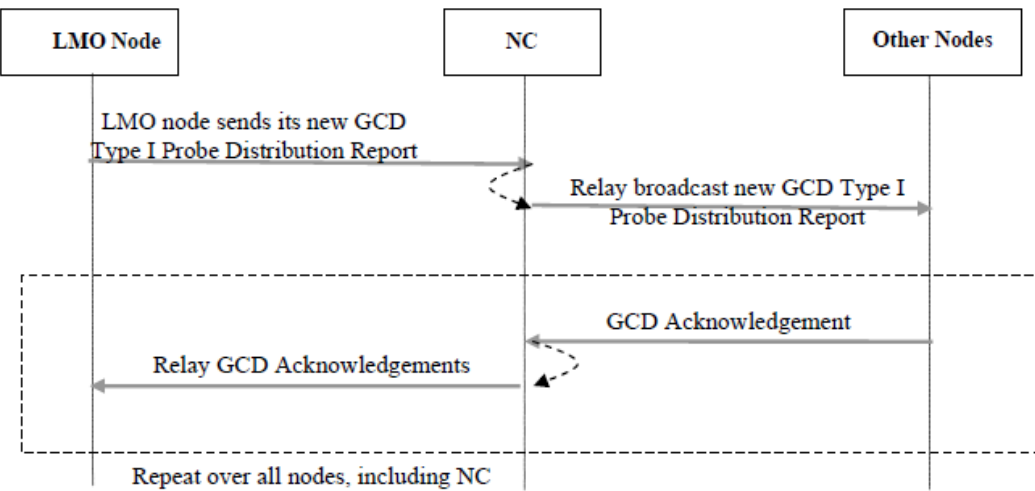
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	<p>parameters that both receive nodes can receive may have less capacity. For broadcast and multicast transmissions, a node must calculate a Broadcast Bitloading (BBL) profile for all nodes that may receive the packet from this node.” (MoCA 1.0, Section 2.1.2. <i>See also</i> MoCA 1.1, Section 2.1.2, MoCA 2.0, Section 5.3.1)</p> <p>“A receiving node processes this [Type I: Modulation Profile Probe] to generate a modulation profile of QAM constellations. The modulation profile is transmitted back to the node that generated the probe so that the node knows which modulation profile to select when transmitting to that receiving node (for a description of PHY probe processing by the MAC see Section 3.13).” (MoCA 1.0, Section 4.5.1. <i>See also</i> MoCA 1.1, Section 4.5.1, MoCA 2.0, Section 8.3.4.1.10)</p> <p>“The SC_MOD parameter is used to define the Modulation Profiles for both unicast packets and GCD packets. Unicast packet Modulation Profiles are derived from the Type I Probe. GCD Modulation Profiles are derived from Type I Probe Reports obtained from all nodes. Because GCD packets must be received by multiple nodes, the GCD Modulation Profile MUST be selected to support the required PER to all receiving nodes simultaneously.” (MoCA 1.0, Section 3.13.3.1. <i>See also</i> MoCA 1.1, Section 3.13.3.1, MoCA 2.0, Table 6-32)</p>
transmits a response signal to the transmitting node informing the transmitting node of the bit-loading modulation scheme for the corresponding channel path;	<p>The Accused MoCA Instrumentalities are operable to transmit a response signal to the transmitting node informing the transmitting node of the bit-loading modulation scheme for the corresponding channel path as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA</p>

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	<p>Instrumentalities include circuitry and/or associated software modules that transmit a response signal to the transmitting node informing the transmitting node of the bit-loading modulation scheme for the corresponding channel path.</p> <p>“As described above, certain transmissions of probes are mandated by this specification. The information obtained from analyzing the probe packets at the receiver is used to determine various PHY parameters, such as Modulation Profile and cyclic prefix length for each link and channel. The link layer communicates the computed PHY parameters to other nodes according to the MAC specification.” (MoCA 1.0, Section 4.5. <i>See also</i> MoCA 1.1, Section 4.5, MoCA 2.0, Section 8.9)</p> <p>“When an EN receives the Type I Probe Report request, relayed via the NC, the EN MUST send a report back using Type I Probe Report MAC Frame (format shown in Table 3-9). The EN MUST send this report to the NC with a request to relay the report to the LMO node (by setting RELAY_FLAG to ‘1’).” (MoCA 1.0, Section 3.7.3.5. <i>See also</i> MoCA 1.1, Section 3.7.3.5, MoCA 2.0, Section 8.9)</p> <p>“The Type I Probe Report conveys critical information about channel conditions such as Modulation Profile and Power Control. The calculated parameters of this report are derived from Type I and optionally from Type III Probes and are described in Table 3-27. These parameters are to be used in future transmissions to the node that sent the report.” (MoCA 1.0, Section 3.13.3.1. <i>See also</i> MoCA 1.1, Section 3.13.3.1, MoCA 2.0, Section 8.3.4.1.7)</p>
the transmitting node comparing the plurality of bit-loading modulation schemes to	The Accused MoCA Instrumentalities are operable to compare the plurality of bit-loading modulation schemes to determine a common bit-loading modulation scheme

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<p>determine a common bit-loading modulation scheme; and</p>	<p>as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that compare the plurality of bit-loading modulation schemes to determine a common bit-loading modulation scheme.</p> <p>“The topology of the in-home coax typically results in a multi-path delay profile. Because the echoes can be stronger and/or weaker than the original signal, depending on the output port-to-output port isolation of the jumped splitter, the channel is said to have either pre- or post-echoes, respectively. A zero decibel echo, i.e., equal power to the main path, leads to deep nulls in the frequency domain spectrum. In order to achieve target packet error rates of less than 10⁻⁵ for large packets (>1500 bytes) with no retransmissions, the MoCA physical layer uses channel pre-equalization (using bit loading) and multi-tone modulation on all links.” (MoCA 1.0, Section 2.2. <i>See also</i> MoCA 1.1, Section 2.2; MoCA 2.0, Section 5.2)</p> <p>“ACMT is a variation of orthogonal frequency division multiplexing (OFDM) where knowledge of the channel is used to pre-equalize all signals using variable bitloading on all subcarriers. The term used to describe the bitloading of the ACMT subcarriers is “modulation profile” and the process of creating a modulation profile between a node pair is called “modulation profiling”. During periodic modulation profiling, probes are sent between all nodes and analyzed. After probe analysis, modulation profiles are chosen to optimize individual link throughput while maintaining a low packet error rate.” (MoCA 1.0, Section 2.2. <i>See also</i> MoCA 1.1, Section 2.2; MoCA 2.0, Section 5)</p>

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	<p>“The Type I Probe Report conveys critical information about channel conditions such as Modulation Profile and Power Control. The calculated parameters of this report are derived from Type I and optionally from Type III Probes and are described in Table 3-27. These parameters are to be used in future transmissions to the node that sent the report.” (MoCA 1.0, Section 3.13.3.1. <i>See also</i> MoCA 1.1, Section 3.13.3.1, MoCA 2.0, Section 8.3.4.1.7)</p> <p>“The SC_MOD parameter is used to define the Modulation Profiles for both unicast packets and GCD packets. Unicast packet Modulation Profiles are derived from the Type I Probe. GCD Modulation Profiles are derived from Type I Probe Reports obtained from all nodes. Because GCD packets must be received by multiple nodes, the GCD Modulation Profile MUST be selected to support the required PER to all receiving nodes simultaneously.” (MoCA 1.0, Section 3.13.3.1. <i>See also</i> MoCA 1.1, Section 3.13.3.1, MoCA 2.0, Table 6-32)</p> <p>“PHY Profile – A set of parameters that defines the modulation between two nodes, including the preamble type, Cyclic Prefix length, Modulation Profile, and transmit power.” (MoCA 1.0, Section 1.2. <i>See also</i> MoCA 1.1, Section 1.2, MoCA 2.0, Section 3)</p> <p>“Broadcast Bit Loading (BBL) – This transmission format is used by each node when transmitting simultaneously to all nodes in the network. The transmission format is derived by each transmitting node to be the common set of transmission parameters based on unicast transmission format from the transmitting node to each other node in the network.”</p>

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	<p>(MoCA 1.0, Section 1.2. <i>See also</i> MoCA 1.1, Section 1.2, MoCA 2.0, Section 3)</p> <p>“Greatest Common Density (GCD) - A modulation format computed by a node for transmission to multiple recipient nodes. For the GCD format, the modulation density used for each subcarrier is chosen to be the greatest possible constellation density that is less than or equal to the constellation density for that subcarrier as reported in the most recent Type I Probe Report the node sent to each of the other nodes in which the node indicated CHANNEL_USABLE = 0x01.”</p> <p>(MoCA 1.0, Section 1.2. <i>See also</i> MoCA 1.1, Section 1.2, MoCA 2.0, Section 3)</p> <p>“In addition to the point-to-point communication, the MoCA protocol supports broadcast and multicast capabilities. When transmitting to multiple devices, a node must find a set of PHY parameters that all the other nodes can receive. Even though two links from a given transmitter may have the same channel capacity, their individual link characteristics may be drastically different. A common set of PHY parameters that both receive nodes can receive may have less capacity. For broadcast and multicast transmissions, a node must calculate a Broadcast Bitloading (BBL) profile for all nodes that may receive the packet from this node.”</p> <p>(MoCA 1.0, Section 2.1.2. <i>See also</i> MoCA 1.1, Section 2.1.2, MoCA 2.0, Section 5.3.1)</p>
<p>the transmitting node transmitting a broadcast signal relaying the common bit-loading modulation scheme to the plurality of receiving nodes.</p>	<p>The Accused MoCA Instrumentalities are operable to transmit a broadcast signal relaying the common bit-loading modulation scheme to the plurality of receiving nodes as described below.</p> <p>For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that transmit a broadcast signal relaying the common bit-loading modulation scheme to the</p>

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	<p>plurality of receiving nodes.</p> <p>“When NC receives indication by all other nodes in the network (including LMO node) in their reservation request (NEXT_LINK_STATE = 0x9) that they have finished signal exchanges of the previous state, NC MUST begin advertising LMO GCD Distribution state. This state is indicated by value 0x09 in the Asynchronous MAPs. When the LMO node receives Type I Probe Reports from all other nodes, it must re-calculate its GCD PHY Profiles and send back to all other nodes. Signals exchanged in this state are shown in Figure 3-14.” (MoCA 1.0, Section 3.7.4. <i>See also</i> MoCA 1.1, Section 3.7.4; MoCA 2.0, Section 8.9)</p>  <pre> sequenceDiagram participant LMO as LMO Node participant NC as NC participant Other as Other Nodes LMO->>NC: LMO node sends its new GCD Type I Probe Distribution Report NC->>Other: Relay broadcast new GCD Type I Probe Distribution Report Other->>NC: GCD Acknowledgement NC->>LMO: Relay GCD Acknowledgements Note over LMO, NC, Other: Repeat over all nodes, including NC </pre> <p>Figure 3-14. Messages Exchanged During GCD Distribution State (MoCA 1.0, Figure 3-14. <i>See also</i> MoCA 1.1, Figure 3-18, MoCA 2.0, Section 8.9)</p>

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	<p>“After the LMO node has received acknowledgments from all nodes, it MUST advance its LINK_STATE field to “Begin LMO PHY Profile” state. When the NC receives the updated LINK_STATE indication from all other nodes in the network, it MUST advance the Link Control state of the network to “Begin LMO PHY Profile” state. When the LMO node receives this Link Control state indication, it can begin using newly computed PHY profiles (including transmit power settings) as described in Section 3.13.3.”</p> <p>(MoCA 1.0, Section 3.7.5. See also MoCA 1.1, Section 3.7.5; MoCA 2.0, Section 8.9)</p>